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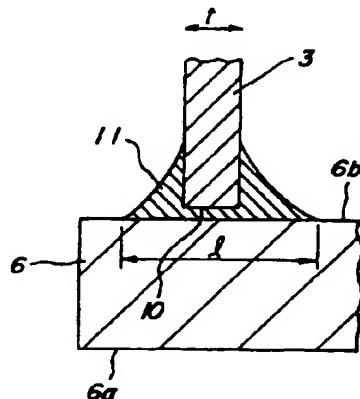
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(54) Joined articles and a process for producing such joined articles

(57) A process is disclosed for producing a joined article between a ceramic member and another member, which process includes the steps of brazing the ceramic member with another member by using a brazing material composed of 50 to 99 wt% of copper, 0.5 to 20 wt% of aluminum, 0.5 to 5 wt% of at least one kind of active metals selected from the group consisting of titanium, zirconium, hafnium, vanadium and niobium, thereby obtaining a joined body including the ceramic member, another member and a layer of the brazing material, and heating the brazing material layer in an oxidative atmosphere.

FIG. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 99 30 2301

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.)
A,D	EP 0 726 238 A (NGK INSULATORS, LTD.) 14 August 1996 (1996-08-14) * page 3, line 19 - line 30; claims 1-4,8-11,13-17; examples A2,A3,A6-A8,C8-C10,COMP.EX.A3; tables 1,3 * * page 5, line 31 - line 33 *	1-10	C04B37/02 C04B37/00
A	EP 0 422 343 A (GTE PRODUCTS CORP.) 17 April 1991 (1991-04-17) * page 2, line 7 - line 13; claims 1-5; examples 1-5 *	1-10	

TECHNICAL FIELDS SEARCHED (Int.Cl.)			
C04B			
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	2 September 1999	Hauck, H	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document	
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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 99 30 2301

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02-09-1999

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 726238	A	14-08-1996	JP	8277171 A	22-10-1996
EP 422343	A	17-04-1991	US	5087416 A	11-02-1992
			JP	3242383 A	29-10-1991
			US	RE35521 E	27-05-1997
			US	4983213 A	08-01-1991

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